

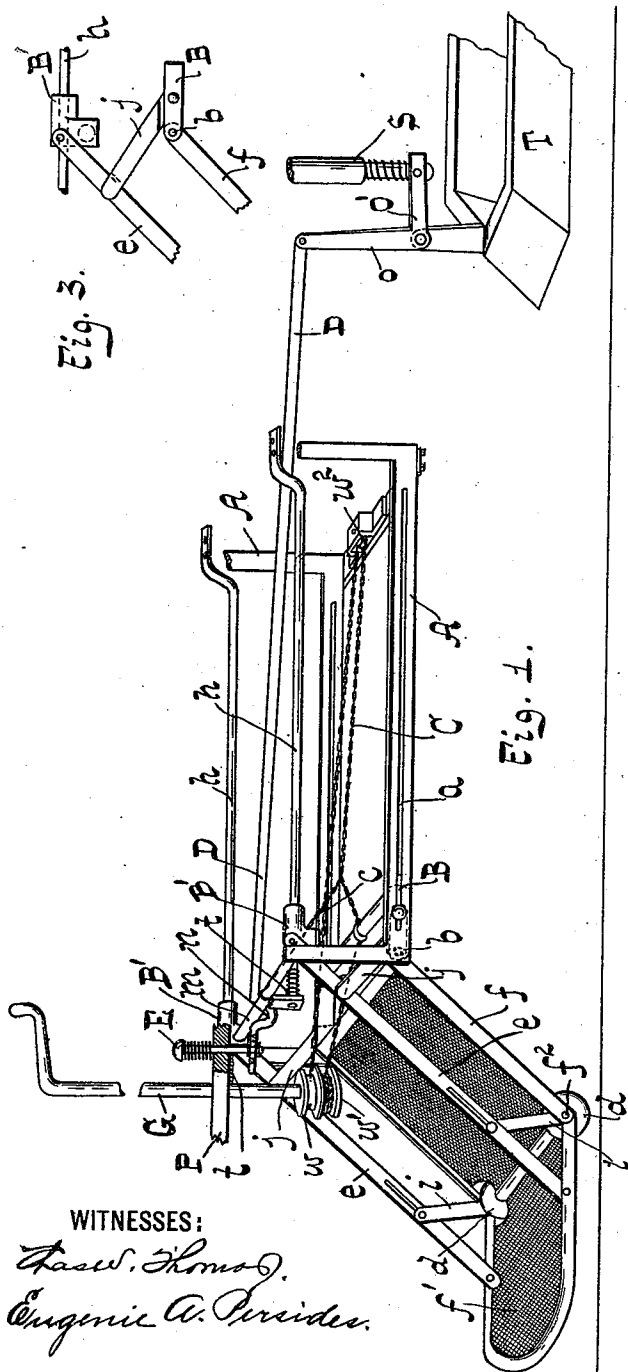
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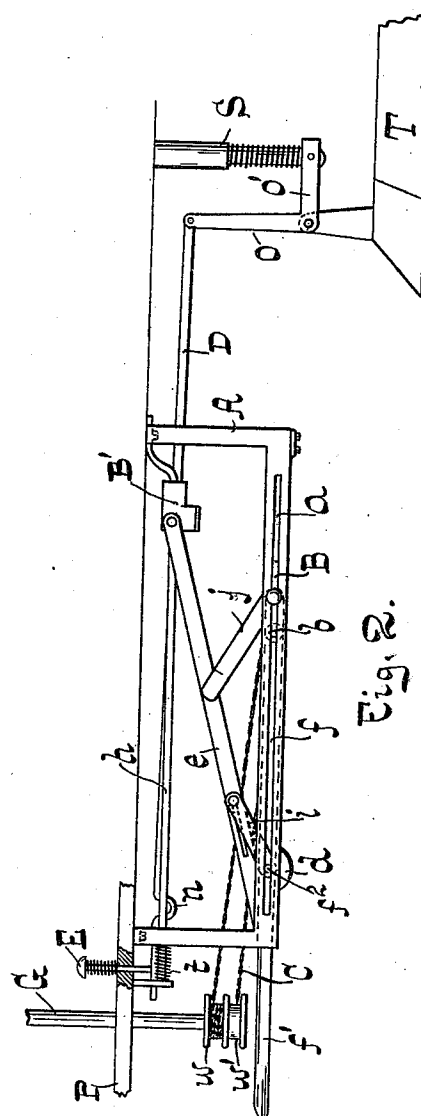
L. HACHENBERG.
CAR FENDER.

No. 553,524.

Patented Jan. 28, 1896.



WITNESSES:
Chas. W. Thomas.
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INVENTOR:
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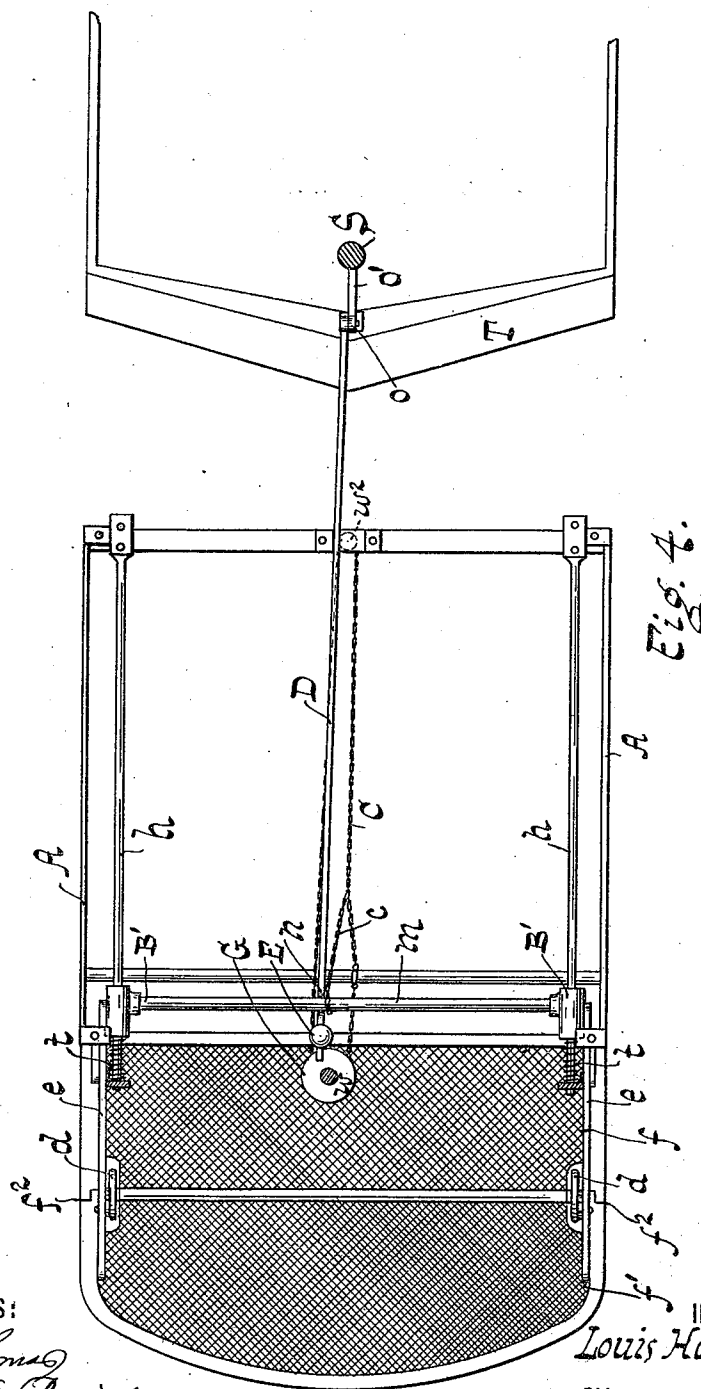
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L. HACHENBERG.
CAR FENDER.

No. 553,524.

Patented Jan. 28, 1896.



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INVENTOR:

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UNITED STATES PATENT OFFICE.

LOUIS HACHENBERG, OF NEW YORK, N. Y.

CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 553,524, dated January 28, 1896.

Application filed April 18, 1895. Serial No. 546,190. (No model.)

To all whom it may concern:

Be it known that I, LOUIS HACHENBERG, a citizen of the United States of America, residing at New York, in the county and State of New York, have invented certain new and useful Improvements in Car-Fenders, of which the following is a specification.

My invention has reference to improvements in fenders for street-cars, such as are commonly employed for the purpose of preventing injury to persons and loss of life.

It has for its objects, first, to provide a fender which can be readily removed by the attendant from its operative position and conducted beneath the platform of the car, so as to prevent the fender from being damaged in case of collision with passing trucks, and, secondly, to provide a fender which remains substantially at a constant predetermined level above the road-bed under ordinary circumstances, but which yields and descends in case of contact with a body on the tracks, so as to prevent passage of the body thereunder, or which can be lowered by the attendant for the same purpose.

With these objects in view my invention consists essentially in the combination, with a car, of a fender movable in the direction of the length of the car, and means in operative connection with said fender for moving the same into and out of its operative position. The fender is also mounted to swing radially and is automatically raised and lowered by the vibrations of the car-body through suitable connecting-levers to cause it to remain at a substantially constant level above the road-bed, which connection, however, is such as to permit the fender to be depressed independently of the vibrations of the car.

The nature of my said invention will best be understood when described in connection with the accompanying drawings, in which—

Figure 1 is a perspective view of the fender constructed according to my invention. Fig. 2 is a side elevation, partly in section, showing the fender in its retracted position. Fig. 3 is a side elevation of detail parts. Fig. 4 is a plan or top view.

Similar letters of reference designate corresponding parts throughout the several views of the drawings.

Referring now to the drawings, the letters

A A designate two hangers pending from the bottom of the platform P of the car and provided with longitudinal guideways *a*. Within said ways is mounted a slide B connected to the fender F by pivots *b*.

The fender proper consists of two sections *f f'* pivoted to each other at *f²* and composed of suitable frames across which is stretched wire-gauze or other suitable material. The section *f* is placed at an inclination to the road-bed, while the section *f'* is held substantially parallel to the latter. Suitable wheels *d* located above the tracks may be used. The forward section *f'* is connected by rods *e* to a slide B' mounted to reciprocate upon guide-rods *h h* extending substantially parallel to the guideways *a* in the hangers A, and suspended from the bottom of the platform.

The connecting-rods *e* are slotted near their lower ends and connected to the pivot-pin of the fender-sections by links *i*. Near their upper ends the connecting-rods are engaged by the slotted or forked ends of arms *j* secured to the slide B. A transverse bar *m* forming part of the slide B', but which may connect the two connecting-rods *e*, is received in a notch *n* in a bar D, having its forward end slotted and supported by a spring-pressed stud E mounted in and extending through the platform of the car, while its rear end is in connection with a bell-crank lever *o o'* pivoted to the truck T. The arm *o'* of the bell-crank lever is in connection with a spring-tappet S secured at its upper end to the body of the car.

At the front of the platform is located a suitable handle G, to the spindle of which are attached two pulleys *w w'*. One end of a chain C is attached to the upper pulley, *w*, and passed over a guide-pulley *w²* mounted on a cross-bar attached to the inner ends of the hangers A. The opposite end of the chain is attached to the slide B, and a second chain carried from said slide to the lower pulley, *w'*, or the first chain may be made long enough to extend from the slide B to the pulley, *w'*. The bar *m* is connected by a piece of chain *c* to the chain C between the slide B and the pulley *w²*.

At the ends of the guide-rods *h h* are located suitable springs *t* against which the slide B'

bears when the fender is in its operative position.

The operation of the fender is as follows: In view of the fact that the level of the fender is not appreciably affected by the vibrations of a car, the section f' can be set quite close to the road-bed. Consequently there is but little danger of a person being drawn under the fender. When, however, the fender strikes an object, it is immediately depressed in view of the yielding permitted by the spring, t and stud S . This action is automatic, but the fender can be lowered by the driver or motorman stepping on the foot-piece E , which depresses the bar D and permits the fender to fall by its own weight.

To draw the fender beneath the platform from the position shown in Fig. 1, the foot-piece is depressed and the handle G is turned in the proper direction to wind up the chain C on the pulley w . At the commencement of this operation the chain-section c by acting on the bar m first swings the fender into a substantially horizontal position, after which the fender is drawn inwardly to the position shown in Fig. 2.

The vibrations of the car acting on the tapet S oscillate the bell-crank lever $o o'$, which in turn reciprocates the bar D , thereby causing the fender to swing about its pivots in a direction reverse to the motion of the car.

What I claim as new is—

1. The combination with a car, of a fender composed of two sections pivotally united and mounted to reciprocate, a slide B' , and rods connecting the fender with said slide, substantially as described.

2. The combination with a fender composed of two sections pivotally united, of a guide supporting said fender and permitting the same to move horizontally, a slide B' , rods connecting the sections of the fender with said slide, and means for reciprocating the fender, substantially as described.

3. The combination with a car, of a fender having a pivotal, sliding connection with the

car body, a lever connected with the car body and with the truck, and a separable connection between the fender and said lever, substantially as described.

4. A fender composed of two sections pivotally connected combined with a slide connected to said fender, a second slide mounted above the first, rods connecting said slide with the sections of the fender, and means for reciprocating the first slide, substantially as described.

5. The combination of a pivoted fender mounted to reciprocate, of a handle provided with a winding device, a guide pulley, a chain connected with the fender and with the winding device, and a second chain connected with the fender and the winding device for the purpose of lifting the fender into a substantially horizontal position, substantially as described.

6. The combination with a fender of a slide B connected by rods e and links i with said fender, a guide for said fender, a handle G provided with pulleys, a guide pulley, a chain attached to the fender and to said pulleys on the handle, and passing over the guide pulley, and a connection between said chain and the slide, substantially as and for the purpose set forth.

7. The combination with a fender of a slide connected to the same, a bar D engaging said slide, a lever connection of said bar with the car body and with the truck, a spring pressed stud E connected with said bar, and springs t , located in position to be engaged by the slide when in its forward position, and permitting oscillatory motion of the same, substantially as and for the purpose set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two witnesses.

LOUIS HACHENBERG.

Witnesses:

A. FABER DU FAUR, Jr.,
EUGENIE A. PERSIDES.